

What is claimed is:

1. A probe for connecting a device under test to a measurement device, the probe comprising:

a ground wire for connecting a ground on the device under test to a ground on the measurement device;

a first circuit that outputs a compensation signal representing the difference between a first and a second input;

a first additional wire that connects the ground of the device under test to the first input of the first circuit;

a second additional wire that connects the ground of the measurement device to the second input of the first circuit; and

a second circuit that receives the compensation signal and a test signal from the device under test and outputs a signal proportional to the difference between the test signal and the compensation signal to the measurement device.

2. A probe for connecting a device under test to a measurement device, the probe comprising:

a probe tip connecting to a source and a ground of the device under test;

a cable including a first electrical connection carrying a signal representative of the source from the probe tip to the measurement device and a second electrical connection connecting the ground of the device under test to the ground of the measurement device; and

active circuitry identifying a voltage drop between the ground of the device under test and the ground of the measurement device and correcting the signal for the voltage drop prior to reaching the measurement device.

3. A probe, as set forth in claim 2, wherein the active circuitry comprises:

a detection circuit that outputs a compensation signal proportional to the voltage drop between the ground of the device under test and the ground of the measurement device; and

a summing circuit that subtracts the compensation signal from a signal proportional to the signal from the source.

4. A probe, as set forth in claim 3, where in the detection circuit forms a third electrical connection between the ground of the device under test and the ground of the measurement device.

5. A method of correcting errors in a signal measured by a probe, the method comprising:

measuring a voltage difference between a ground of the device under test and the ground of the probe; and

outputting a signal representative of the difference between the voltage of the signal and the voltage difference.

6. A method of displaying a representation of a signal on a device under test with a probe, the method comprising:

measuring a voltage difference between a ground of the device under test and the ground of the probe;

measuring the voltage of the signal; and

displaying a representation of the difference between the voltage of the signal and the voltage difference.

7. A probe for connecting a device under test to a measurement device, the probe comprising:

a probe tip connecting to a source and a ground of the device under test;

a cable including a first electrical connection carrying a signal representative of the source from the probe tip to the measurement device and a second electrical connection connecting the ground of the device under test to the ground of the measurement device;

means for identifying a voltage drop between the ground of the device under test and the ground of the measurement device; and

means for correcting the signal for the voltage drop prior to reaching the measurement device.

8. A measurement device comprising:

a main unit including test and measurement circuitry; and

a probe including:

a probe tip connecting to a source and a ground of the device under test;

a cable including a first electrical connection carrying a signal representative of the source from the probe tip to the measurement device and a second electrical connection connecting the ground of the device under test to the ground of the measurement device; and

active circuitry identifying a voltage drop between the ground of the device under test and the ground of the measurement device and correcting the signal for the voltage drop prior to reaching the measurement device.

9. A measurement device, as set forth in claim 7, wherein the main unit is one of an oscilloscope, a spectrum analyzer, a network analyzer, a logic analyzer, a counter, and a time interval meter.